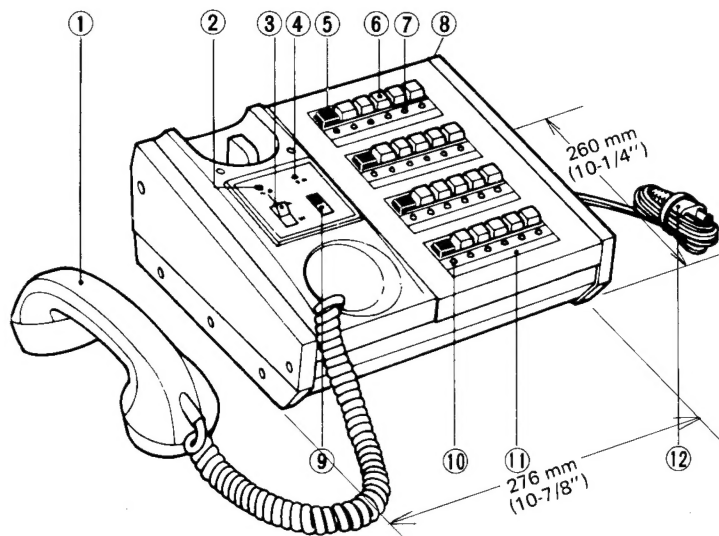


# INTERNAL TELEPHONE SYSTEM

**MODELS: TB-10T** (10-call master)  
**TB-20T** (20-call master)

## — INSTRUCTIONS —



## NAMES AND FUNCTIONS

1. Handset
2. Power lamp
3. Power switch
4. Communication lamp
5. OFF (Cancel) button
6. Selector button
7. Annunciator lamp
8. Terminal block (on back of cabinet)
9. Tone volume control (on panel)
10. Selection lamp
11. Directory card
12. AC plug

## FEATURES

1. Tone & lamp annunciation on calling.
2. Telephone sub station with automatic call in.
3. Door station & adaptor available.
4. Warning tone to indicate master has not been cleared.
5. Two masters per system.
6. Various combinations of conversation:
  - A. Master to master
  - B. Master to sub
  - C. Sub to sub through master
  - D. One master to sub of second master
7. Wall-mountable master station.
8. Call extension speaker available.
9. One paging zone in lieu of one sub station may be installed.

## SPECIFICATIONS

- \* **POWER SOURCE:** AC110V, AC120V, AC125V, AC220V, AC240V, 50/60Hz.
- \* **POWER CONSUMPTION:** 5.0W maximum
- \* **CAPACITY:**
  - 10 & 20 station masters
  - 20 & 40 station additional selectors
- \* **WIRING:**
  - 2 conductors per sub (Non-polarized), 3 conductors between masters
  - 5 conductors to additional selector (using the included connector)
  - 3 conductors to door station adaptor (2 common and 1 individual)
  - 2 conductors from door station adaptor to door station (Non-polarized)
- \* **PAGING:** Use PA-T paging adaptor in conjunction with AIPHONE standard Paging Amplifier Models: PG-10B, PG-30B or PG-60B (PG-10A, PG-30A or PG-60A in North America) and speakers.

## BEFORE YOU INSTALL AND OPERATE THE EQUIPMENT – Prohibitions and precautions –

### \* Operation;

1. DO NOT HOLD HOOK SWITCH DOWN WHILE PICKING UP HANDSET. THE CALL TONE SOUNDS THRU THE HANDSET RECEIVER ELEMENT AND COULD CAUSE HEARING DAMAGE.

### \* Installation;

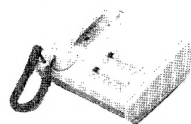
1. DO NOT CONNECT ANY TERMINAL ON ANY UNIT TO AC POWER LINES.
2. Be sure to remove plug of power supply from AC outlet before you open the unit or make wiring connections.
3. Avoid running the connecting wires thru doors, windows or between furniture, which may pinch and disconnect the wires.
4. The intercom equipment must be installed in as dry and dust-free environment as possible.

### \* Maintenance;

1. Clean your intercom equipment with a soft cloth dampened with neutral household cleanser. Never use thinner nor benzine, etc.
2. Do not splash water on the door station by hose, etc.



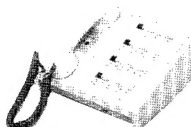
## COMPONENTS AVAILABLE FOR USE IN THE TB-T SYSTEM



TB-10T: 10-call master.



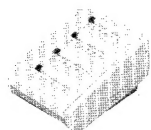
PA-T: Paging adaptor.  
Connects TB-T master to a paging system and background music system.



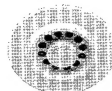
TB-20T: 20-call master.



PG-10A, PG-30A, PG-60A:  
UL & CSA LISTED paging amplifier.  
10W, 30W, 60W (for North America only).

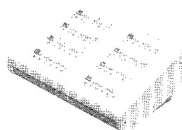


TB-20AS: Add-on selector for 20 additional sub stations.



PG-10B, PG-30B, PG-60B:  
Standard paging amplifier. 10W, 30W, 60W.

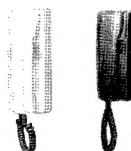
SP-3NA: Ceiling mount speaker.  
Install with or without NBZ-M square frame.



TB-40AS: Add-on selector for 40 additional sub stations.



DB-TS: Door station adaptor  
(required for each door station)



TB-RC: Sub station.

TB-RC (R): Sub station with red case.

### ■ Door stations;

All weather resistant type. LED mounted on each cover.



IC-DC



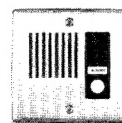
IC-NA



IC-RA



IC-KA



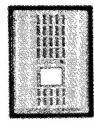
IC-JA



ICR-1: Call extension.



IC-FY



IC-DA-R



ID-DA

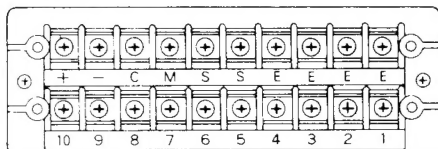


ID-NC

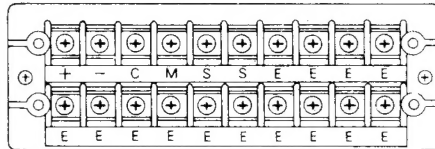
## ACTUAL TERMINAL LOCATIONS

The master station terminal block is located on back of the cabinet.

### ● TB-10T



### ● TB-20T



① — ②① for connecting sub station

(E)

(C)

(M)

for connecting master station

(S)

(S)

.. for connecting call extension speaker

(+)

(-)

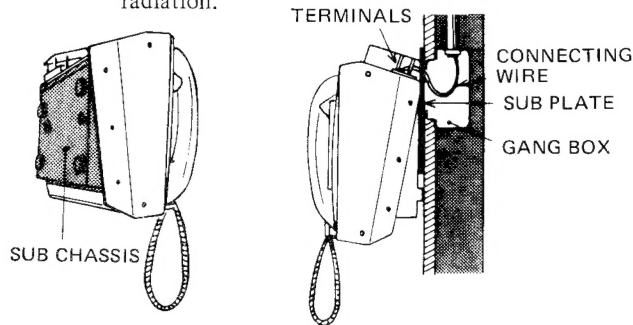
.. for power supply to the door station adaptor

NOTE: For connecting master station and additional selector, joint each connector on back of the cabinet.

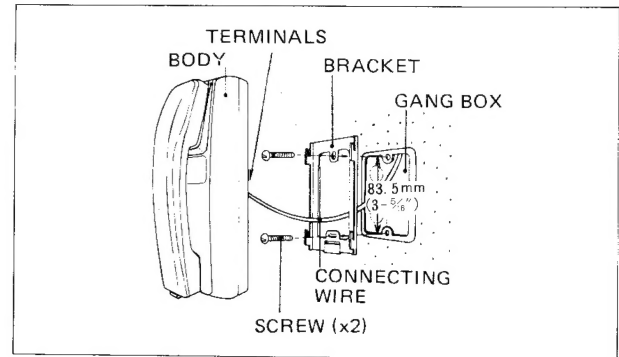
## WALL MOUNTING INSTALLATION

**MASTER STATION:** (1) When wall mounting, install sub chassis upside down. (2) When mounting to a gang box, use sub plate (available from Aiphone) as shown in the figure.

**NOTE:** Sub chassis must be ALWAYS used for heat radiation.



**SUB STATION:** Attach the mounting bracket to wall or gang box.



## WIRING

Layout your system in advance. Determine the location of each station and wiring to each. Two conductors are required from a master to each sub station under control of that master. Three conductors are required between the two masters. Door station adaptor DB-TS should be located as near master as possible. Three conductors are required to DB-TS.

- \* Connect a single pair of wires (non-polarized) to TB-RC phone, and to numbered station terminals on master station which you wish to call.
- \* Adjust call tone volume as desired on the panel of master.
- \* Do not common one side of pair at any other point than at master. Doing so will affect proper operation of your system. Refer to the connection diagrams.
- \* Extend a single pair of wires from terminals: S, S on master to ICR-1, extension call speaker in places where you wish to receive a call besides at master.

Refer to the chart below and select the proper size wire for your needs.

	24 AWG	22 AWG	20 AWG	18 AWG
Master to sub	750'	1,300'	2,000'	3,000'
Master to master	400'	650'	1,000'	1,600'
DB-TS to door station	300'	500'	750'	1,200'
	0.5 mm	0.65 mm	0.8 mm	1.0 mm
Master to sub	230 m	400 m	600 m	900 m
Master to master	120 m	200 m	300 m	480 m
DB-TS to door station	90 m	150 m	230 m	360 m

After installation of a master and one sub station, we recommend that the system be turned on and tested for proper operation. The system should further be tested after the addition of each five stations.

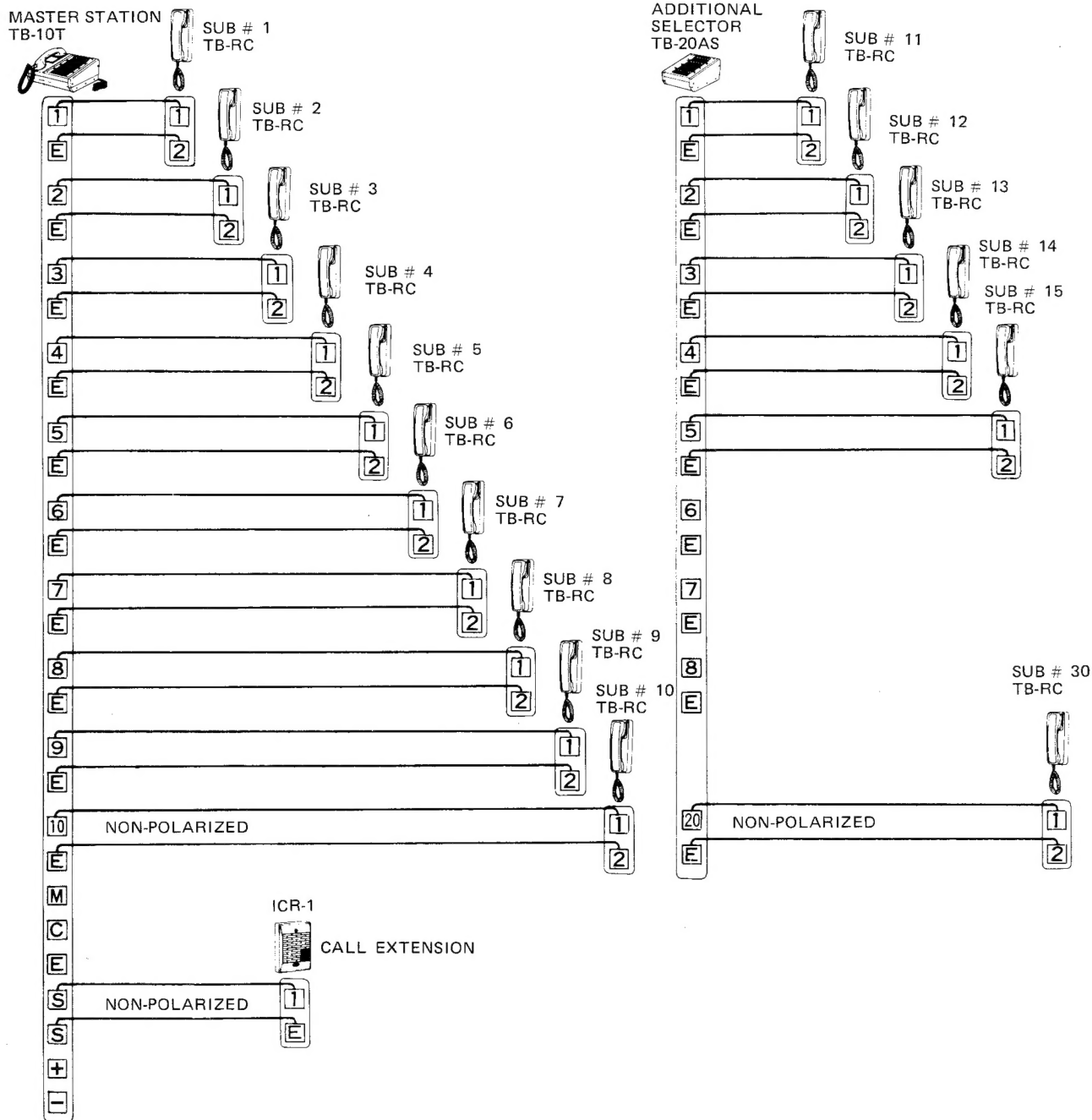
## INSTALLATION OF DOOR STATION

1. Terminal N indicates the number to which door will announce.
2. DB-TS should be mounted so as to keep wiring to the master as short as possible.
3. Mount door station to wall or gang box as desired.
4. Connect terminals 1 and 2 on DB-TS to door station. Wiring is non-polarized.
5. Connect terminals + and - to master station. Observe polarity.

**NOTE:** DB-TS can not be connected to additional selector.

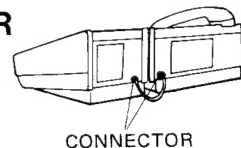


## INSTALLATION EXAMPLE # (2): TB-10T w/additional selector & 30 TB-RC



### CONNECTION OF TB-T MASTER TO ADD-ON SELECTOR

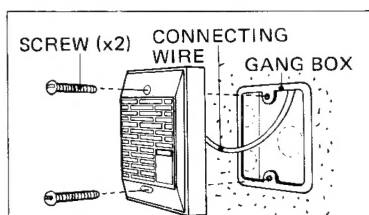
The provided connector allows easy plug-in connection between master and additional selector.



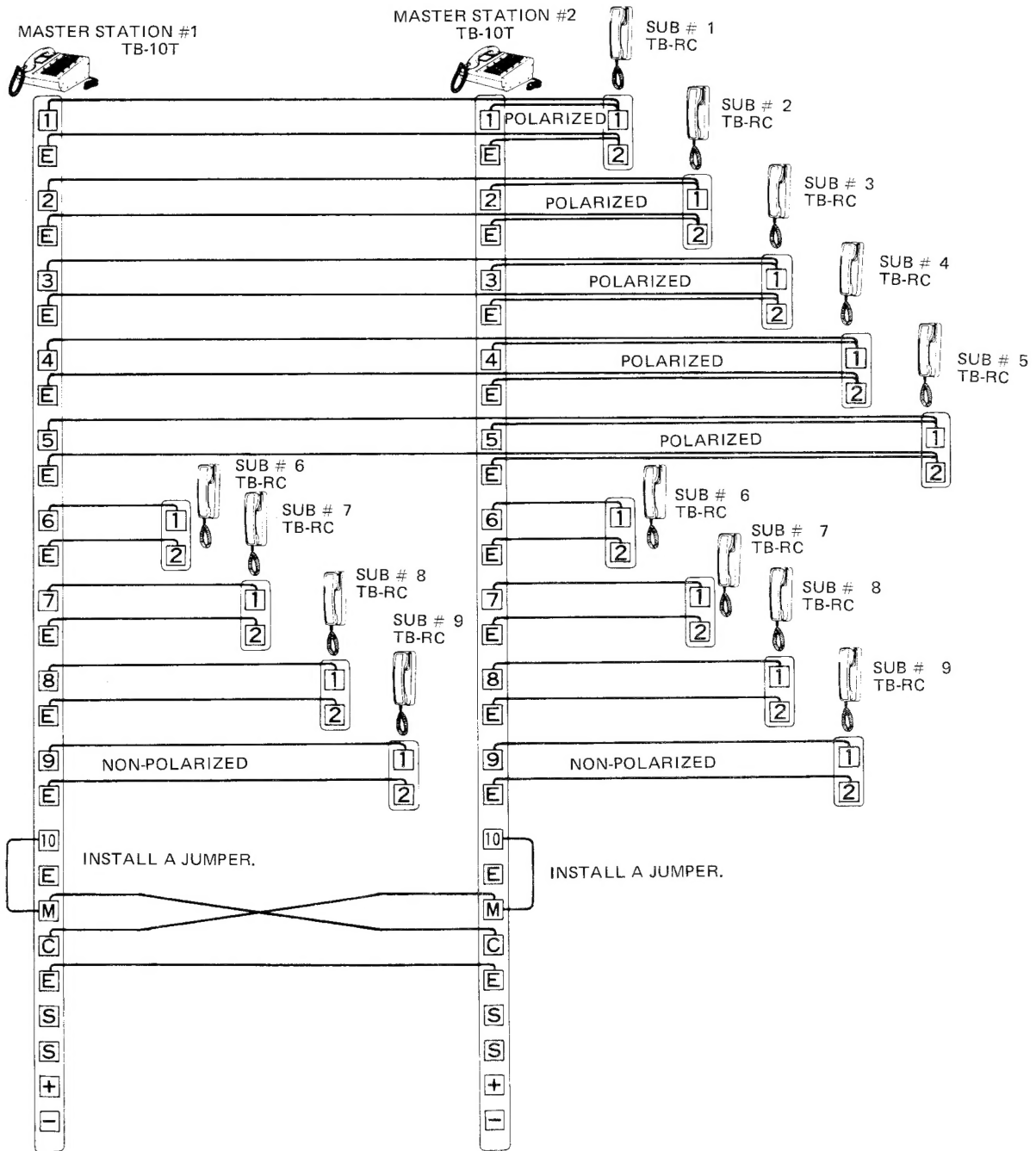
### INSTALLATION OF CALL EXTENSION: ICR-1

A call extension device: ICR-1 may be added to each master station so as to signal calls in a room other than master's. Connect terminals S, S on master to ICR-1 – wiring is non-polarized.

After wiring terminals, install ICR-1 to a gang box or to wall with supplied screws, as shown.



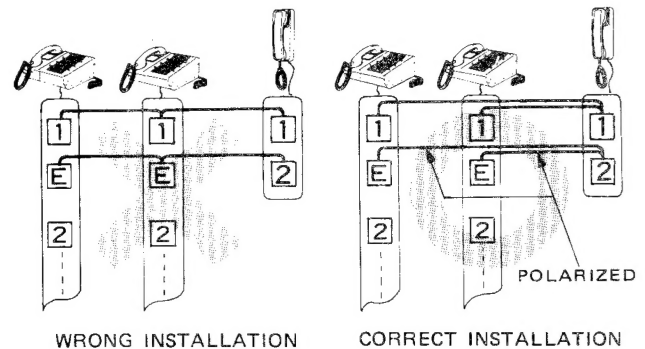
# **INSTALLATION EXAMPLE # (3): 2 TB-10T w/each 9 TB-RC subs**



\* In the above example, sub stations from #1 to #6 can call two masters simultaneously. In this case, separate wires (each 2) are required from sub to each master.

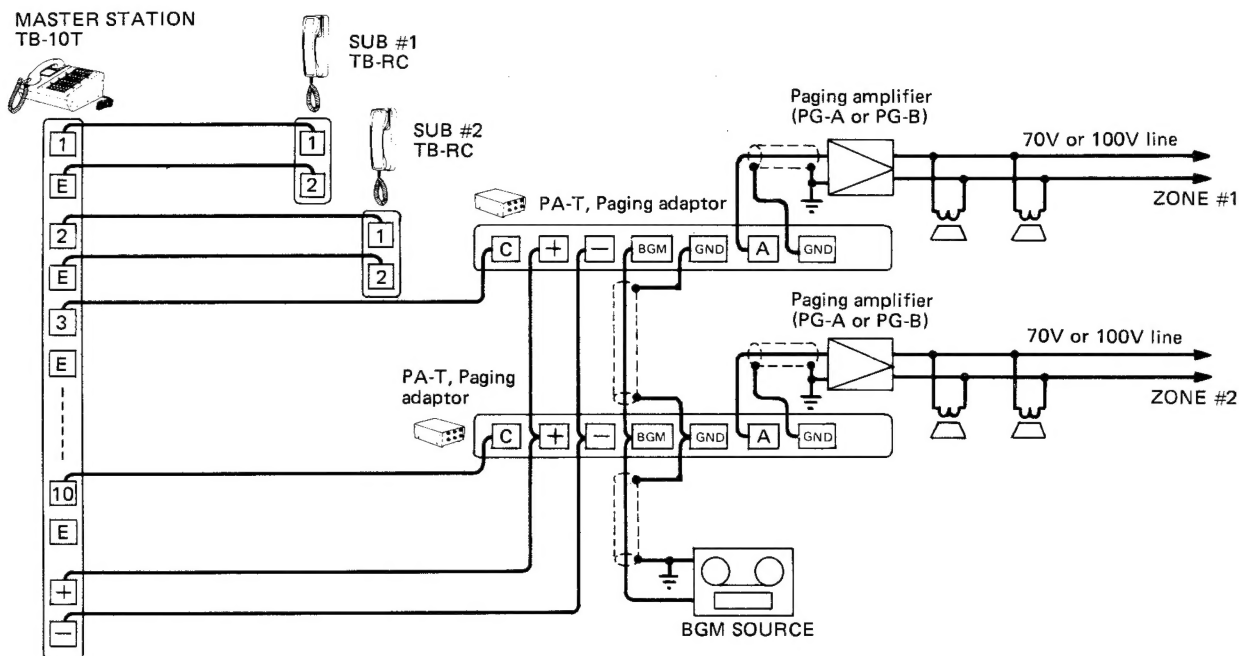
\* When a sub station # 1 picks up handset, both masters may be signalled by tone and lamp. But when a master is engaged in other communication, a sub station # 1 may hear both call and busy tones.

When a call is received by either master, the call will be automatically cancelled at the other master.



## INSTALLATION EXAMPLE

### # (4) TB-10T SYSTEM WITH ONE PAGING BLOCK



NOTE: IN A TWO-MASTER SYSTEM, SEPARATE PAGING EQUIPMENT IS REQUIRED FOR EACH MASTER.

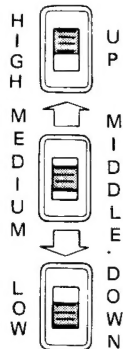
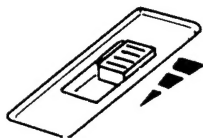
\* For full information, please refer to the Instructions packed with PA-T.

## ADJUSTING CALL TONE VOLUME

### MASTER STATION :

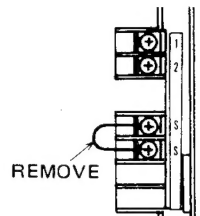
The call tone volume may be adjusted to three levels by setting switch as desired.

- TONE VOLUME CONTROL



### SUB STATION :

When sub station is located in a quiet place, you may reduce the call tone volume by removing a jumper between terminals S, S on back of TB-RC phone.



# OPERATIONS

## MASTER STATION

1. Receiving a call;
  - A. Incoming calls are annunciated by tone and lamp.
  - B. Pick up handset and depress the selector button above the illuminated LED.
  - C. If a second station calls the annunciator lamp will illuminate but the tone will not sound.
  - D. If a door station calls the annunciator lamp will illuminate for approximately 20 seconds, and the tone will sound unless the master is busy.
  - E. Depress OFF button at the end of every conversation. A tone will sound to remind you if you forgot to depress OFF button.
2. Placing a call;

Pick up handset and depress selector button of sub station desired. Your call will automatically be annunciated by audio tone.

When you hear busy tone upon calling to another master, please call it later.
3. Conversation between subs can be accomplished as follows (except to door station);
  - A. Sub station #1 calls master and indicates that it would like to talk with sub station #3.
  - B. The master places sub station #1 on hold by depressing OFF cancel button and then calls sub station #3 and informs him that sub station #1 is waiting to talk with him.
  - C. The master then selects sub station #1 again and hangs up.
  - D. At the end of conversation both parties hang up and a tone will sound, reminding the master to cancel the selector switches.
4. Paging;
  - A. Pick up handset and depress selector button of zone desired. This will cut out background music and transmit pre-tone over paging speakers. Make paging announcement through handset.
  - B. Upon completing page, hang up handset and cancel the selected button by depressing OFF button.

NOTE: Up to 2 paging zones may be selected at a time.

## SUB STATION

To place a call simply pick up handset and wait for the master station to answer. A tone will be heard indicating the master is ringing. If a faster repeated tone is heard, the master is busy. Your call is announced at master by a lamp only and you may wait for a reply or call later.

## DOOR STATION

Momentarily depress the call button. Talk and listen hands free to master station. Do not push call button during conversation.

\* \* \*

We at AIPHONE are proud of our products. Our designers and engineers strive to bring you the finest in communication equipment. Each item has been carefully tested and inspected before leaving our factory. Properly installed and used, your Aiphone intercom system should give years of trouble-free service.

We are pleased to offer the following warranty:

### WARRANTY

Aiphone warrants its products to be free from defects of material and workmanship under normal use and service for a period of one year after delivery to the ultimate user and will repair free of charge or replace at no charge; should it become defective upon which examination shall disclose to be defective and under warranty. Aiphone reserves unto itself the sole right to make the final decision whether there is a defect in materials and/or workmanship; and whether or not the product is within the warranty.

This warranty shall not apply to any Aiphone product which has been subject to misuse, neglect, accident, or to use in violation of instructions furnished, nor extended to units which have been repaired or altered outside of the factory.

This warranty does not cover batteries or damage caused by batteries used in connection with the product.

This warranty covers bench repairs only, and any repairs must be made at the shop or place designated in writing by Aiphone. Aiphone will not be responsible for any costs incurred involving on site service calls.